Announcing the 1st

Ocean Global Change Biology Gordon Research Conference

July 6 to 11, 2014, at the Waterville Valley Resort, New Hampshire

Chairman: Dave Hutchins, University of Southern California

Vice Chairman: Phil Boyd, University of Tasmania

Organizing Committee: Adina Paytan (UCSC) and Shannon Meseck (NOAA)

A growing body of evidence indicates that our ability to predict biological responses to a changing oceanic environment depends on understanding the interactive effects between many distinct ocean properties. In the last decade the ocean research community has primarily focused on the biological effects of changes in individual ocean properties, particularly pH (ocean acidification) and temperature (sea surface warming). This new GRC will bring these distinct but related research threads together by adopting a holistic approach to two pressing research questions – "***How will ocean biota respond to multiple fundamental and concurrent alterations of their environment***?", and "***How will their cumulative responses affect ocean productivity, biodiversity and biogeochemistry***?".

This new Gordon Research Conference will encompass diverse research communities, from experimentalists to modelers, who are all tackling aspects of biological responses to ocean global change. There is an urgent need to move beyond the current focus on just ocean acidification to address the full range of interactive anthropogenic global change effects on the marine biota, including warming, enhanced hypoxia and stratification, ice melting, changes in iron and nutrient availability, altered irradiance, and shifts in biological interactions such as competition and predation. The Ocean Global Change Biology GRC will open new avenues of communication between the diverse research communities who are addressing all of these inter-related processes, in order to devise a range of approaches to more systematically and realistically tackle the full range of impacts of a changing ocean environment on the biological communities and living resources of the ocean. The OGCB GRC will cover the full range of marine organisms, from cyanobacteria and phytoplankton to zooplankton, benthic organisms, and top predators. Sessions and discussion leaders/speakers will include:

1. ***Lessons learned from the ocean acidification field***

Discussion Leader: Jean-Pierre Gattuso (Villefranche) **Speakers:** Ulf Riebsell (GEOMAR Kiel), Joan Kleypas (NCAR), Jim Barry (MBARI).

2. ***Feedbacks between ocean acidification, warming and hypoxia***

Discussion Leader: Shannon Meseck (NOAA). **Speakers:** Brad Seibel (URI), Lisa Levin (Scripps), Wei-Jun Cai (U. Delaware).

3. ***Paleo proxies for multiple environmental stressors***

Discussion Leader: Adina Paytan (UC Santa Cruz). **Speakers:** Meixun Zhao (Ocean U., Qingdao), Baerbel Hoenish (Lamont), Dani Schmidt (U. Bristol)

4. ***Biogeochemical consequences of multi-variable global change processes***

Discussion Leader: Andreas Andersson (Scripps). **Speakers:** Uta Passow (UC Santa Barbara), Andreas Schmittner (Oregon State), Anne Cohen (WHOI).

5. ***Acclimation, plasticity and adaptation***

Discussion Leader: Gretchen Hofmann (UC Santa Barbara). **Speakers:** Sinead Collins (U. Edinburgh), Steve Palumbi (Stanford), Brian Helmuth (Northeastern U.)

6. ***Physiological and genetic responses to interacting anthropogenic stressors***

Discussion Leader: Doug Capone (USC). **Speakers:** Elena Litchman (Michigan State), Andy Allen (JCVI and Scripps), Mak Saito (WHOI), Kunshan Gao (Xiamen U.).

7. ***Ecosystem modeling of multiple stressors***

Discussion Leader: Scott Doney (WHOI). **Speakers:** Al Tagliabue (U. Liverpool), Jorge Sarmiento (Princeton), Stephanie Dutkiewicz (MIT).

8. ***Developing and comparing ocean global change experimental methods***

Discussion Leader: Philip Boyd (U. Tasmania). **Speakers:** Bill Kirkwood (MBARI), Christina McGraw (Clark U.), David Kline (Scripps).

9. ***Temporal and spatial scales of biological responses to environmental change***

Discussion Leader: Kevin Arrigo (Stanford). **Speakers:** Mike Behrenfeld (Oregon State), Matt Oliver (U. Delaware), Ricardo Letelier (Oregon State).

Poster sessions will be open for all participants to present their latest research. We encourage everyone interested in the effects of global change on the ocean biota, from new graduate students to senior investigators, to join us for this

timely new Gordon Research Conference. Depending on funding availability, we plan to have a limited number of fellowships available to support the participation of junior and under-represented scientists, by application starting later this spring.

For more information or to apply, visit the GRC website at:

www.grc.org/programs.aspx?year=2014&program=oceanglob

or contact chairman Dave Hutchins at dahutch@usc.edu